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TRAINING OF OLDER WORKERS--ENGLISH AND WEST EUROPEAN EXPERIENCE.

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THE ROLE OF THE ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT IS ILLUSTRATED IN REPORTS OF VARIED RETRAINING PROGRAMS (PART OF THE ACTIVE MANPOWER POLICY) IN GREAT BRITAIN, FRANCE, AND SWEDEN. THE PROGRAMS INCLUDE SUCH ACTIVITIES AS--(1) FINANCIAL ENCOURAGEMENT OF INDUSTRY TO PARTICIPATE IN TRAINING THE OLDER ADULT, (2) RETRAINING TO MEET SPECIFIC SHORTAGES IN THE WORK FORCE, (3) TRAINING FOR FUTURE INDUSTRIAL NEEDS, AND (4) PROVISION OF TRAINING ALLOWANCES. SCIENTIFIC RESEARCH DONE IN ENGLAND HAS PROVIDED EVIDENCE THAT IT IS SOUND PUBLIC POLICY TO INVEST IN TRAINING OF OLDER PERSONS, AND SPECIALLY-DESIGNED TRAINING FOR THEM IS VERY EFFECTIVE. THE RESULTS OF TWO STUDIES DEMONSTRATE AN ACTIVITY METHOD OF LEARNING IS SUPERIOR TO MEMORIZATION, AND WHEN INFERENCE, OR DEDUCTION, IS INTRODUCED INTO PROGRAMED AND ACTIVITY LEARNING, SUCCESS IS GREATER THAN BY EITHER METHOD, AS WELL AS BY MEMORIZATION. A HIGH DROPOUT RATE AT COMMENCEMENT OF TRAINING AND AFTER TRANSFER TO THE WORK SITUATION, AND LOW EMPLOYMENT IN LARGER, MORE ADVANCED FIRMS WERE ALSO REVEALED BY SURVEYS. INFORMATION RESULTING FROM THESE STUDIES IS BEING APPLIED IN EXPERIMENTAL PROJECTS IN FIVE COUNTRIES. THIS PAPER WAS PRESENTED AT THE NATIONAL CONFERENCE ON MANPOWER TRAINING AND THE OLDER WORKER, WASHINGTON, JANUARY 17-19, 1966. (PT)

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(January 17)

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PANEL AND WORKSHOP SESSIONS

I.

"Community Action on Older Worker Training and Employment -- How to Get It and Maintain It."

DR. R. MEREDITH BELBIN (Consultant to the Organization for Economic Cooperation and Development, Paris, France): Mr. Chairman, ladies and gentlemen: It is indeed a pleasure for me to be here. I only arrived in the United States, on my first visit to North America, a few hours ago, and in a sense I feel like Christopher Columbus.

There is only one difference between myself and Christopher Columbus. I know America has been discovered before, but when Columbus landed, he didn't know it had been discovered before. (Laughter)

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So this program is already being applied on a very large scale, and the French have done an enormous amount of work in developing training programs for a very wide range of skills which are in short supply.

France was one of the originators of Active Manpower Policy, and it is considered that this has made a major contribution to her industrial growth, by identifying skill bottlenecks and providing training facilities to overcome them.

But perhaps the country that we may associate most with the development of an Active Manpower Policy is Sweden. There are two features about the Swedish system which I would like to commend to you.

The first feature concerns really a rather simple point, but one which has a very big bearing on everything, and that is the pay that trainees receive. I think sometimes when we talk about getting older people into training programs and we consider the difficulties that are involved in so doing, we are inclined to lose account of how attractive it is for the trainees to come into these programs. If it is sufficiently attractive, then it is much easier to get these people to participate.

Sweden is distinctive in that the financial remuneration of those who enter into the programs, relative to other countries, is highly attractive.

The investment in this form of training is very substantial indeed. The training centers in Sweden are exceedingly well equipped. One consequence of this is that the age composition of trainees in Sweden is rather higher than in the other countries of Western Europe. They succeed in recruiting more older people, and they appear to have fewer difficulties both in attracting them and holding them.

Another feature of the Swedish scene is that their programs are very highly integrated. One of the great problems about training for vocational skills is that training programs can be established but then difficulties arise in making placements.

If you examine placement figures in the skills for which people have been trained, you sometimes find the figures are rather disappointing.

The contention in Sweden is that industrial training cannot operate in a vacuum. So this highly integrated system works on the basis of a forecast of the occupational skills which the economy needs within the next one or two years. This information, being continuously supplied by an independent body, is the basis for establishment of the training program.

Where there are regional pockets of unemployment, there is a highly integrated system for encouraging industry to move towards these areas, through giving them the necessary inducements.

But while the system is highly integrated it is also adequately decentralized, with municipal and regional government playing an important part.

So here we have a comprehensive approach to the employment problems of adult workers, and it is this comprehensive approach which seems crucial in making it a practical success.

I am happily reminded here, looking through your list of delegates and speakers, of Marguerite Coleman. I haven't yet met her, but I remember reading her work ten years ago. She, in fact, put her finger on the importance of this point for the training of older workers when she said, "The entire project needs to be geared from beginning to end to make it successful."

So we may conclude that this overall total view, this systems approach upon which Mr. Ulrich lays stress, is exceedingly important for us to take account of in pursuing these programs.

Now, in spite of the progress that has been made in the operation of Active Manpower Policies in Western Europe, we have to admit that the proportions of persons who have been recruited and trained in middle and upper age groups are still relatively low, with the exception of Sweden. This was low at one time owing to the reluctance of the employment agencies to recruit older people, because they considered them more difficult to train and to place. That policy has now been abandoned due to the recommendations of OECD. Yet, in spite of that, the proportions of older people being trained are still low, although the age discrimination has been removed.

In France, for example, although the French program is very substantial indeed, the last figures that I saw showed that of those in their training centers only 3.9 per cent were persons aged 35 and over.

In order to promote the growth of training of older workers, OECD have sponsored projects with a view to showing that training of older workers can be made into an entirely feasible, practical proposition if tackled the right way.

My role in this respect has been, first of all, to collate the scientific and individual evidence which has a bearing on the success or failure of training programs. To this end a book was published by OECD in 1965, under the title Employment of Older Workers -- Training Methods. *

This has been followed up by a number of international seminars in Europe which have produced two further books summarizing European experience in applying training methods to older workers. These are: Job Redesign and Occupational Training for Older Workers, Final Report and Supplement to Final Report (OECD, 1965). *

Both books contain some very interesting information. This is particularly the case with French experience. **

* OECD Publications, 2 Rue Andre, Paris XVl
**See Appendix, P.

Having collated this information, OECD has now embarked on the next stage of the program, which is trying to apply this information in demonstration projects. These demonstration projects have just begun. I just, in fact, returned from the first project, in Austria, which is beginning as this conference begins.

We have had a very great deal of interest in these projects. We had budgetary provision for five countries to participate. Of the five countries, seven have accepted. (Laughter) This is indeed leading to a certain amount of embarrassment.

But, nonetheless, we believe that within a year or two years we shall have a fair body of interesting information on the outcome of these experiences.

These demonstration projects, incidentally, have not been designed merely as sort of propaganda exercises showing that older workers can be retrained. They are being conducted as scientific experiments in which various methods are being compared, so that the outcome can advance our knowledge on how older workers should be trained.

Well, having said something about the role of OECD, I would now like to present to you something of the work we have been carrying out in England in our studies of training methods, to give you some sort of appreciation of the direction in which we are moving.

It is not my intention to duplicate a lot of what has already been published. If you get hold of my booklet, you will find that this in fact deals with the subject very much more comprehensively than I have time for today.

But I thought it would be useful to describe one or two basic processes in learning and training and show the few principles which have emerged.

You may be familiar with the book "Unwanted Workers," by the late Professor R. C. Wilcock. He was an American consultant working for OECD in Paris who died suddenly and very tragically and who is very much missed by his colleagues in Europe.

One of the things that comes out rather strikingly from his data is the great difficulty of getting older people into the larger and more advanced firms.

If you examine closely the jobs into which older people move, you find that they tend to move into the lower-grade types of jobs. Those companies which are rather larger, where the demand for skilled employees is higher, and those companies which have advanced training programs, show a general reluctance to accept older people from outside.

The problem is highlighted by a follow-up study of factory workers who lost their jobs in Peoria. When the age composition of these displaced persons was broken down into five age groups it transpired that the firms with 1,000 employees and over took on proportions of unemployed that declined progressively with each age group, whereas the firms with fewer than 100 employees took on proportions of

unemployed that increased progressively with each age group.

I believe that this reflects the great reluctance of employers to accept older people for the higher-grade occupations, particularly when it comes to training.

One of the reasons for this is that older workers are generally considered to be less trainable. The statistics on people passing through training courses bears out very markedly the unwillingness to accept older trainees. It seems worthwhile then to ask ourselves how trainable older people are and whether they can be made more trainable.

So I would like, first, to describe some experiments we conducted in the laboratory, and then to show you something of what happened when we tried to apply the principles we had discovered to practical situations in industry.

One typical task in learning is that of trying to associate one thing with another. In one of our early experiments we set up a color object classification task.

There were two methods -- learning by memorizing and learning by activity.

In the learning by memorizing experiment, people were given a list of the colors and then a list of the objects, and they had to remember which color went with which object. Having memorized this, they were given a pack of cards with the objects on them, and they had to sort them out correctly.

The other method was that of activity learning. Here the subjects, instead of being asked to memorize a list, were given experimental cards where the objects had color cues on them. These color cues eventually disappeared, and they went on sorting them into various categories.

The younger subjects consisted of two groups, "secondary modern school" and "grammar school" children. This division reflects one of the peculiarities of the British educational system. At the age of 10, children in State schools sit for competitive examinations, and the most intelligent ones, or the ones who do best in these examinations, go to grammar schools, and the other go to secondary modern schools.

So the grammar school children were, therefore, on the whole, more gifted than those in the secondary modern group, and their learning performance correspondingly better in both memorizing and activity learning. For these children the difference between the two training methods was not very significant but a substantial difference between the two methods of instruction and training was shown for two matched groups in the over-40's. The adult trainees were comparable with the secondary modern school children on the memorizing method, but comparable to the grammar school children on the activity method.

The base of comparison, incidentally, was the time in which they were able to carry out the tasks. If people haven't learned very well, then they stumble, and they think, and they ponder.

When new items were introduced, which they had never seen before, which they had to classify through having developed the right concept, the over-40's who had learned by memorizing suffered a considerable set-back in terms of time.

But those who learned by activity obtained results practically as good as those of grammar-school children.

So here we see the first concrete evidence that training method may have a far greater bearing on the learning performance of mature adults than it will on younger people's learning.

Some facts about the distribution of errors in this particular task are also of interest. When subjects are ranked for errors and the subject range is divided into quartiles we find that one quartile makes practically no errors at all, and that most of the errors are to be found in the quartile at the other end of the range.

The two methods, of memorizing and activity training, are virtually indistinguishable in their effects on the error scores of young people.

But when we compare the results with those of older people, we find that there is a very big difference indeed according to the type of training method. When memorizing was employed, older people not only were much slower, but they made far more errors than younger people.

Of course, this doesn't apply throughout the range because the people in the fourth quartile make almost no errors at all. But of those older subjects who do make errors, the errors are made preponderantly by those who learned by memorizing.

I would now like to talk about the application of some of this laboratory work to the industrial scene, specifically, the job of sorting letters in the London Postal Training School.

The British postal system is rather more illogical than that of the United States (laughter), and numbers down streets run in all sorts of funny fashions. Streets may be divided into three different postal districts. And as a final complication, people will leave out the complete address. The result is that the British postal sorter probably has a good deal more to learn than his American equivalent. But, in principle, the sorter has to sort his letters into one of a number of boxes.

Now, once again, one can experiment with a number of different methods to overcome the problems of the older learner. The proportion of failures among the older learners was exceedingly high before this experiment started, although all had passed selection tests administered by the Civil Service Commission. In fact, there is no age discrimination in recruitment for the General Post Office of Great Britain, providing people can pass the tests, which are fairly stringent.

The younger and older trainees -- those who passed -- had obtained fairly similar scores on the selection tests, but when it came to training, the performance of the older groups was very much lower.

I have not time to describe to you the traditional methods which were employed in the training of these postmen. But comparison was made between the experimental method, which has been termed the activity method, and the traditional method.

Under the traditional method, the percentage of trainees aged 35 or over who passed their tests at the first attempt in the training school and in the district office, to which they were subsequently transferred, was only 26. This was increased to 54 per cent under the activity method of training. The younger trainees also improved, from a first time pass rate of 52 per cent to 75 per cent. Thus, the improvement in performance of older trainees was relatively greater than that of the younger trainees. In effect, it meant that older trainees trained by a method designed to overcome their learning problems could reach the same standards as younger trainees trained under a traditional method. This result is all the more significant when we remember that the traditional method had already been refined by experts over a long period and also that the "Hawthorne" effect, which too often inflates experimental results, was offset by applying some stringent controls. (The details are given more fully in Training the Adult Worker.)

These results should not in any way be taken to represent the ultimate. We know that from the point of view of older worker training these programs still contain a good deal of development potential. One aspect which may have a great bearing on performance is that of personal adjustment in training situations.

One problem that has emerged in our studies of training has been the dropout rate of older workers. One of our colleagues, Dorothy Newsham, will, in fact, present a paper to the Congress of Gerontology in Vienna this year based on the theory of "critical period of adjustment."

This critical period tends to exist right at the commencement of training when older people are much more liable to drop out. With respect to the post office trainees, it occurs after the period of training has been completed and they are being transferred to another office.

There is also a very high dropout soon after transfer to the work situation but the dropout rate is gradually lessened, so that in the end more people than younger survived.

If only we can concentrate our efforts on the problem of older trainees during these two critical periods of adjustment we may be able to make further gains in the economics of older worker training.

Although the results of these industrial experiments are encouraging, it has nonetheless to be admitted that when you carry out an industrial experiment you very often get better results. Yet one cannot always be certain of the reasons for these better results. In a training program for older workers one changes all sorts of conditions at the same time, so that one might be easily misled in attributing the improvement to any single cause.

When we had completed the experiment in the General Post Office, the Post Office authorities were sufficiently pleased with the practical results to allow us to conduct a series of further experiments in which we sought to evaluate more vigorously some of the principles we had used. To help us, Post Office trainees assisted us as subjects in laboratory settings.

First of all, the task material consisted of a list of tiny hamlets, each of which must be associated with a particular county. Altogether, 20 hamlets had to be fitted into four counties.

So here we had a task which simulated real situations in learning in the Post Office, and we could examine the effects of various training methods in the learning of these associations.

The requirement in each case was for the subject to be presented with the hamlet and then to complete the county.

In the first condition subjects were required to learn to associate from a list -- that is, learn by memorizing. Then in the test situations they had to sort each item on a card out into boxes marked with the names of the counties. This is very much akin to what they had to do in the traditional Post Office training program.

There were 20 subjects in each group, and the mean score is out of a maximum of 20 correct responses. The older subjects obtained a mean score of only 11.55 against the score of 13.25 for the young subjects.

Some people have argued that the attempt to learn something in written form and then to apply what has been learned by making motor response involves a sort of transformation which can itself impair performance. In this next condition instead of sorting the cards into the boxes, the subjects were required to write down the responses.

But the effect of this change was not really significant. The younger group proved superior with a score of 14.5 against the score for the older group of 11.8.

The next experiment provided a correction to some of our earlier ideas about activity methods. We had thought that if you gave people activity tasks, the effect of carrying out physical activity itself could register the information in their minds. The method involved learning by sorting the items on the cards into the appropriate boxes. It was also combined with another feature. One method commonly employed in British industry, especially by training consultants, is the "progressive part" method, in which all the information is broken down and learned bit by bit and then built progressively into greater and greater groups. This method has proved to be rather successful with young trainees.

This method did, in fact, assist the young people and enabled them to reach the commendable score of 15.55 but it didn't help the older at all, who scored 11.35. So here you have an example of a training method that may benefit young people but confer no comparable benefit for older people.

In the next condition we compared whole-method learning by activity. Instead of memorizing a list, they were asked to sort cards which had cues on them, which enabled them to sort them into the right boxes. Then these cues would disappear. So there was no actual memorizing as such. The whole training was based on an activity method, and they were tested as before.

We found the difference between the old and the young tended to be reduced, with a score of 11.20 for the older group and 12.00 for the younger group.

The next condition involved a method based on programming. There is enormous interest in the value of programmed instruction, and sometimes people seize on programmed instruction and say, "This is ideal. This is just what we want for older people."

So here programmed instruction method was employed, but this method in fact gave us the lowest score we had yet had for the older people. The mean score for a group of 28 older subjects was 9.39 against a mean score of 12,39 for a comparable group of younger subjects. The older people didn't like being programmed -- at least not in the way in which it was developed in this experiment. The results, however, were quite reasonable for the younger people.

Finally, we introduced another method, which was the method which ultimately proved most effective in the Post Office. This was a method based on inference or deduction. Let me expand on this.

When people are required to learn the relationship between a number of items and a number of categories, one possibility is to give them partial information and let them deduce the rest. So, for example, if we give people a list of villages, we can say, "Well, Items A, B and C go into a particular category (or county, in this case), and all the others will go into another county." We don't tell them what all the others are but we let them work it out for themselves.

So the trainees learn through engaging in the active mental process of working things out for themselves. Instead of acting as passive receptors of information, like an absorbent blotting paper mopping up knowledge, they have to deduce that as an item cannot be in one category, it must be in another.

This method was employed in the separate experimental situations. First it was applied to activity learning and then to programmed learning. In both of these conditions, which were quite separate ways of handling the information, it conferred great benefit on the older people. And the older trainees now learned as effectively as the young trainees, although the two groups did give different results.

As applied to programmed learning, the method produced a mean of 12.07 for 27 older trainees against 12.82 for 28 young trainees. When applied to activity learning, the mean scores for two matched groups of older and younger trainees were 14.85 and 14.65 respectively.

This series of experiments will serve as one example of the sort of work that we have been carrying out in England with a view to advancing our knowledge about the training of older workers.

Before I conclude I should like to make a few passing references to similar experiments which we have conducted on other skills in other industries. Sometime ago for example, we conducted quite a large-scale experiment in the worsted industry in Great Britain, on a skill which requires operatives to sew very fine threads into quite complicated weave patterns. This was a task which appeared to make very considerable demands on the eyesight. In spite of acute labour shortages, only young people were recruited for training in this work.

Through studying the difficulties in perceiving the configurations, we found a way of developing perceptual skill in older people which compensated for their loss of visual acuity. This work was carried out under controlled conditions and produced a training method which is now applied throughout the industry.

But the outcome of the experiment was only a partial success. The employers were very happy to avail themselves of the new training method (which had been developed within the context of older workers training) but they were still unwilling to apply it other than to young people.

This is a salutary warning that opportunities for older worker training depend on something more than the development of appropriate training methods.

Recently, we have been actively searching in England for difficult skills which pose really formidable problems for older trainees. There is evidence to show that high-speed skills in industry are very difficult for older people to acquire. There is a very sharp decline in performance from the mid-20's, and it is common to find that employers refuse to take people after the mid-20's because of their loss of trainability.

So we have tried to examine some of these skills which present particular difficulties for older trainees. One of these studies has been concentrated on high-speed sewing machine operation.

I have not time to tell you the results of these studies except to say that we have made quite marked progress and have succeeded in getting trainees at the age of 40 to acquire skills of the same order of ability as younger persons.

In tackling these more difficult jobs we think we are going to learn more and more about the really fundamental problems of training older persons.

I would like now to sort of sum up by putting three points to you which I hope you will remember as forming the substance of my talk.

The first point is that I believe that there is now a great deal of evidence to show that it is very sound public policy to invest in the training of older persons. On this point let me add that OECD will be publishing very shortly booklet No. 3 in its series on the employment of older workers. It will deal with the placement of older workers and the evidence of economic criteria will be adduced to support public policies for training and placing such people even up to the age of 55. This can be viewed as sound investment which leads to economic growth and equally as a social benefit which has the additional advantage of offsetting certain social costs, such as unemployment pay.

The second point is that where training is designed to help older trainees it is likely to improve greatly their chances of success. As we develop greater and greater knowledge about training methods suitable for mature adults, we are likely to bring about a change in the relative costs of training younger and older people. It would appear that ultimately the additional cost of training older workers may become only marginal.

The third point I would like to commend to you -- and I think it will already be self-evident -- is that research into the training of older adults is a subject still in its infancy. I think it is true to say that a few years ago no one in the world knew much about the subject. Almost everything we now know has been learned within the last five years. And I am quite convinced that older worker pedagogy, as it has been called, is a subject in which there are wonderful opportunities for research workers to advance the field of knowledge and so to make a very active contribution to the solution of one of the most pressing problems in our society.

What attracts me about the whole subject of training older workers is that it is such a positive approach to problems of older workers. So many approaches have been concerned with compensating older people for their presumed decline, in the inevitability of lower employability or loss of earnings. But when we consider the training of older workers, we are expressing confidence in the future, and we are giving them hope. By so doing, I think we can say, with Robert Browning, "Grow old along with me. The best is yet to be."

(Applause)

MR. ODELL: Thank you very much.

We are now ready to break for lunch.

We will begin workshop sessions at two o'clock instead of one-thirty.

Thank you very much for your attention at this morning's session.

(Whereupon, at 12:20 p.m., the opening general session was adjourned.)

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